

Networking

```
[node1] (local) root@192.168.0.8 ~
$ docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
f91dcd24cc3d        bridge             bridge              local
29f86d33c606        host               host                local
d6cb529d4892        none               null                local
[node1] (local) root@192.168.0.8 ~
$ docker network inspect bridge
[
  {
    "Name": "bridge",
    "Id": "f91dcd24cc3dd572ea4b0eb99fe1e9ce2ae6cbbb4b2a83e1ae41b4d1a5933787",
    "Created": "2021-06-22T04:05:07.904576216Z",
    "Scope": "local",
    "Driver": "bridge",
    "EnableIPv6": false,
    "IPAM": {
      "Driver": "default",
      "Options": null,
      "Config": [
        {
          "Subnet": "172.17.0.0/16"
        }
      ]
    },
    "Internal": false,
    "Attachable": false,
    "Ingress": false,
    "ConfigFrom": {
      "Network": ""
    },
    "ConfigOnly": false,
    "Containers": {
      "dcda381f02de047fb979af3b83e409931b451d4596e8f7cbb61370edcdd73034": {
        "Name": "apache",
        "EndpointID": "4533a6194bd87fc848d98e98f31331729a9619ad112c23fd5ecb608b4643df6b",
        "MacAddress": "02:42:ac:11:00:02",
        "IPv4Address": "172.17.0.2/16",
        "IPv6Address": ""
      }
    },
    "Options": {
      "com.docker.network.bridge.default_bridge": "true",
      "com.docker.network.bridge.enable_icc": "true",
      "com.docker.network.bridge.enable_ip_masquerade": "true",
      "com.docker.network.bridge.host_binding_ipv4": "0.0.0.0",
      "com.docker.network.bridge.name": "docker0",
      "com.docker.network.driver.mtu": "1500"
    },
    "Labels": {}
  }
]
```

```
[node1] (local) root@192.168.0.8 ~
$ docker run --rm -d --name dummy itachity/ping:6.9
e41f800e3e48e0d07c71423bcfc6f126ad2832e64a0c6075ba1014a9041c2223
```

Not sure why diff container

```
[node1] (local) root@192.168.0.8 ~
$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
67043754011b   itachity/ping:6.9   "sh -c 'ping $PING_T..."   59 seconds ago   Up 58 seconds
e41f800e3e48   itachity/ping:6.9   "sh -c 'ping $PING_T..."   2 minutes ago    Up 2 minutes
dcda381f02de   httpd:2.4        "httpd-foreground"         7 minutes ago    Up 7 minutes   0.0.0.0:80
```

```
[node1] (local) root@192.168.0.8 ~
$ docker run --rm -d -e PING_TARGET=172.17.0.2 --name pinger itachity/ping:6.9
3a2da81c3729b0ccfe7a42d1d3157c0f48387cd0c19b3e03abfbelc6a6f59efa
```

```
[node1] (local) root@192.168.0.8 ~
$ docker logs pinger
PING 172.17.0.2 (172.17.0.2) 56(84) bytes of data.
64 bytes from 172.17.0.2: icmp_seq=1 ttl=64 time=0.163 ms
64 bytes from 172.17.0.2: icmp_seq=2 ttl=64 time=0.066 ms
64 bytes from 172.17.0.2: icmp_seq=3 ttl=64 time=0.095 ms
64 bytes from 172.17.0.2: icmp_seq=4 ttl=64 time=0.091 ms
64 bytes from 172.17.0.2: icmp_seq=5 ttl=64 time=0.098 ms
64 bytes from 172.17.0.2: icmp_seq=6 ttl=64 time=0.073 ms
64 bytes from 172.17.0.2: icmp_seq=7 ttl=64 time=0.054 ms
64 bytes from 172.17.0.2: icmp_seq=8 ttl=64 time=0.078 ms
64 bytes from 172.17.0.2: icmp_seq=9 ttl=64 time=0.064 ms
64 bytes from 172.17.0.2: icmp_seq=10 ttl=64 time=0.094 ms
64 bytes from 172.17.0.2: icmp_seq=11 ttl=64 time=0.089 ms
64 bytes from 172.17.0.2: icmp_seq=12 ttl=64 time=0.065 ms
64 bytes from 172.17.0.2: icmp_seq=13 ttl=64 time=0.079 ms
64 bytes from 172.17.0.2: icmp_seq=14 ttl=64 time=0.083 ms
64 bytes from 172.17.0.2: icmp_seq=15 ttl=64 time=0.067 ms
64 bytes from 172.17.0.2: icmp_seq=16 ttl=64 time=0.065 ms
64 bytes from 172.17.0.2: icmp_seq=17 ttl=64 time=0.055 ms
```

```
[node1] (local) root@192.168.0.8 ~
$ docker run --rm -d -e PING_TARGET=dummy --name pinger itachity/ping:6.9
docker: Error response from daemon: Conflict. The container name "/pinger" is already in use by container "3a2da81c3729b0ccfe7a42d1d3157c0f48387cd0c19b3e03abfbelc6a6f59efa". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
```

Custom Network

```
[node1] (local) root@192.168.0.8 ~
$ docker network create skynet
2b84da300daa848cb22927648941f5d46e132f77e6525008eac059761c87a11c
[node1] (local) root@192.168.0.8 ~
$ docker network ls


| NETWORK ID   | NAME   | DRIVER | SCOPE |
|--------------|--------|--------|-------|
| f91dcd24cc3d | bridge | bridge | local |
| 29f86d33c606 | host   | host   | local |
| d6cb529d4892 | none   | null   | local |
| 2b84da300daa | skynet | bridge | local |


```

```
[node1] (local) root@192.168.0.8 ~
$ docker network inspect skynet
[
  {
    "Name": "skynet",
    "Id": "2b84da300daa848cb22927648941f5d46e132f77e6525008eac059761c87a11c",
    "Created": "2021-06-22T04:35:05.64827755Z",
    "Scope": "local",
    "Driver": "bridge",
    "EnableIPv6": false,
    "IPAM": {
      "Driver": "default",
      "Options": {},
      "Config": [
        {
          "Subnet": "172.19.0.0/16",
          "Gateway": "172.19.0.1"
        }
      ]
    },
    "Internal": false,
    "Attachable": false,
    "Ingress": false,
    "ConfigFrom": {
      "Network": ""
    },
    "ConfigOnly": false,
    "Containers": {},
    "Options": {},
    "Labels": {}
  }
]
```

```
[node1] (local) root@192.168.0.8 ~
$ docker run --rm -d --network skynet --name new itachity/ping:6.9
f2c16ed3f9eeb9defc9bfff9d49f1ca1d250c055ec8575ca2333e841d7d0cfdce
```

```
[node1] (local) root@192.168.0.8 ~
$ docker run --rm -d --network skynet -e PING_TARGET=new --name pingers itachity/ping:6.9
1c413ca633578f39cb6984f699eb43fc98639dbc8a23e24daf75253cbb89379d
```

```

[node1] (local) root@192.168.0.8 ~
$ docker logs pingers
PING new (172.19.0.2) 56(84) bytes of data.
64 bytes from new.skynet (172.19.0.2): icmp_seq=1 ttl=64 time=0.167 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=2 ttl=64 time=0.065 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=3 ttl=64 time=0.075 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=4 ttl=64 time=0.065 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=5 ttl=64 time=0.081 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=6 ttl=64 time=0.067 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=7 ttl=64 time=0.092 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=8 ttl=64 time=0.081 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=9 ttl=64 time=0.062 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=10 ttl=64 time=0.069 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=11 ttl=64 time=0.073 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=12 ttl=64 time=0.943 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=13 ttl=64 time=0.080 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=14 ttl=64 time=0.112 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=15 ttl=64 time=0.084 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=16 ttl=64 time=0.082 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=17 ttl=64 time=0.078 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=18 ttl=64 time=0.073 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=19 ttl=64 time=0.075 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=20 ttl=64 time=0.066 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=21 ttl=64 time=0.093 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=22 ttl=64 time=0.107 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=23 ttl=64 time=0.137 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=24 ttl=64 time=0.089 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=25 ttl=64 time=0.075 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=26 ttl=64 time=0.080 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=27 ttl=64 time=0.115 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=28 ttl=64 time=0.079 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=29 ttl=64 time=0.064 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=30 ttl=64 time=0.094 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=31 ttl=64 time=0.079 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=32 ttl=64 time=0.106 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=33 ttl=64 time=0.110 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=34 ttl=64 time=0.094 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=35 ttl=64 time=0.065 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=36 ttl=64 time=0.062 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=37 ttl=64 time=0.062 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=38 ttl=64 time=0.110 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=39 ttl=64 time=0.066 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=40 ttl=64 time=0.072 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=41 ttl=64 time=0.127 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=42 ttl=64 time=0.083 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=43 ttl=64 time=0.084 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=44 ttl=64 time=0.132 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=45 ttl=64 time=0.081 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=46 ttl=64 time=0.077 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=47 ttl=64 time=0.081 ms
64 bytes from new.skynet (172.19.0.2): icmp_seq=48 ttl=64 time=0.079 ms

```

Connecting Containers

```

[node1] (local) root@192.168.0.8 ~
$ docker run --rm -d --name widgetdb --network skynet -p 5432 postgres
Unable to find image 'postgres:latest' locally
latest: Pulling from library/postgres
69692152171a: Already exists
a31b993d5cc6: Pull complete
f65921886500: Pull complete
b9c1a94e4ca8: Pull complete
435dd99ceb68: Pull complete
d3ee8e88c67c: Pull complete
84b08674f942: Pull complete
7d358e850d3e: Pull complete
6e0e4d11f351: Pull complete
2609ba76e85b: Pull complete
343d9dc54115: Pull complete
741e0010b238: Pull complete
8993560d1eea: Pull complete
Digest: sha256:a8f25ca44e98a4846cad176be8017f8f9c34028e4eebbf905dd46ccbab77d7a2
Status: Downloaded newer image for postgres:latest
04a5e94e441e162afc660ec17d0e2ee7be794af66ff3e42f82aa36d325df0b29
[node1] (local) root@192.168.0.8 ~
$ docker run --rm -d --name gadgetdb --network skynet -p 5432 postgres
2e1602c81d9e7f1f0b0e95df63117f90a46a7ef0f7409c4fa51607428477f5d3
[node1] (local) root@192.168.0.8 ~
$ docker ps

```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PO
RTS	NAMES				
1c413ca63357	itachity/ping:6.9 pingers	"sh -c 'ping \$PING_T..."	About a minute ago	Up About a minute	
f2c16ed3f9ee	itachity/ping:6.9 new	"sh -c 'ping \$PING_T..."	2 minutes ago	Up 2 minutes	
3a2da81c3729	itachity/ping:6.9 pinger	"sh -c 'ping \$PING_T..."	6 minutes ago	Up 6 minutes	
67043754011b	itachity/ping:6.9 gg	"sh -c 'ping \$PING_T..."	7 minutes ago	Up 7 minutes	
e41f800e3e48	itachity/ping:6.9 dummy	"sh -c 'ping \$PING_T..."	9 minutes ago	Up 9 minutes	
dcda381f02de	httpd:2.4	"httpd-foreground"	14 minutes ago	Up 14 minutes	0.
0.0.0:80->80/tcp	apache				